

**REMARKS****Summary of the Office Action**

Claims 1-8 and 11 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Cho (US 6,307,530) in view of Suenaga (US 4,772,100).

Claims 9 and 10 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Cho, Suenaga, and Asada et al. (US 5,963,287).

**Summary of the Response to the Office Action**

Applicant has not amended any claim. Accordingly, claims 1-15 and 17-20 are pending for further consideration.

**Response to Examiner's Comments Regarding Restriction Requirement**

Applicant respectfully disagrees with the Examiner's comments provided in the Office Action for at least the following reasons.

Applicant respectfully asserts that the traversal of the Restriction Requirement was based upon to two separate grounds. The first ground of traversal of the Requirement was based upon the Requirement's failure to properly identify that claim 1 is generic to the alleged Species I (referred to by the Requirement as Specie A) and II (referred to by the Requirement as Specie B) of the invention. As pointed out in Applicant's Response filed on February 17, 2004, Applicant respectfully asserted that claim 1 is generic to each of the Species I and II. In fact, claim 1 must be readable on Specie II because claim 12 (which belongs to Specie II) depends from claim 1. Accordingly, Applicant respectfully requested reconsideration of the Election of Species Requirement to correctly identify that claim 1 is generic to the Species I and II. However, in the Office Action dated May 5, 2004, the Examiner has failed to expressly agree or disagree with

Applicant's assertion that claim 1 is generic to each of the alleged Species I and II of the invention. Accordingly, Applicant respectfully requests that the Examiner, in the next communication from the Office, provide a definitive statement as to whether or not claim 1 is generic to each of the alleged Species I and II of the invention.

The second grounds for traversal of the Requirement was based upon the Requirement's attempt to define the alleged Species of the invention by identifying three different groupings of claims. Accordingly, the Applicant traversed the Election of Species Requirement because, as instructed by MPEP § 806.04(e), "[c]laims are definitions of inventions. *Claims are never species*. Claims may be restricted to a single disclosed embodiment (i.e., a single species, and this be designated a *specific species claims*), or a claim may include two or more of the disclosed embodiments within the breadth and scope of definition (and thus be designated a *generic or genus claim*).” Thus, Applicant respectfully submitted that FIG. 5 may be considered an embodiment that is generic to embodiments shown in FIGs. 6-15B. However, in the Office Action dated May 5, 2004, the Examiner has failed to expressly agree or disagree with Applicant's assertion that FIG. 5 is generic to embodiments shown in FIGs. 6-15B. Accordingly, Applicant respectfully requests that the Examiner, in the next communication from the Office, provide a definitive statement as to whether or not FIG. 5 is generic to embodiments shown in FIGs. 6-15B.

Finally, as pointed out in the Applicant's Response, Applicant respectfully requested that the examination of claims 1-15 and 17-20 be continued, especially in view of the fact that claims 1-15 and 17-20 have been examined on their merits over the past three (3) Office Actions spanning over fifteen (15) months. In response, the Examined alleges that “substantial additional

searching and consideration would necessarily be required to confirm or refute patentability of the remaining species.” Applicant respectfully disagrees.

As the file history of the present application clearly demonstrates, the Examiner has continually examined, and presumably searched for, the invention of ALL of claims 1-15 and 17-20 over the past three (3) Office Actions. Accordingly, Applicant respectfully asserts that no “substantial additional searching and consideration” would be necessary to confirm or refute patentability of the remaining species, unless the invention of claims 1-15 and 17-20 was insufficiently searched and considered over the past three (3) Office Actions. Thus, Applicant respectfully asserts that continued examination of ALL of claims 1-15 and 17-20 would not place a serious burden on the Examiner, since the Examiner has already produced three separate Office Actions on the merits.

Furthermore, Applicant respectfully asserts that, as noted by the Examiner in the Requirement, upon the allowance of generic claim 1, Applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 C.F.R. § 1.141. However, since the Examiner now indicates that “substantial additional searching and consideration would necessarily be required to confirm or refute patentability of the remaining species,” it is completely unclear if the Examiner is intending to *actually* consider the additional Species II which corresponds to dependent claims 12-14 and otherwise include all the limitations of generic claim 1, as provided by 37 C.F.R. § 1.141. Thus, Applicant respectfully requests clarification, in the next communication from the Office, whether or not Specie II of the invention will in fact be considered when independent claim 1 is allowed.

Therefore, for at least the reasons set forth above and for the reasons set forth in Applicant's Response filed on February 17, 2004, Applicant again respectfully requests that examination of ALL of claims 1-15 and 17-20 continue. In the event that the Examiner refuses to continue examination of ALL of claims 1-15 and 17-20 in the instant application, Applicant reserves the right to Petition the Commissioner to review the Requirement under 37 C.F.R. § 1.144.

**All Claims Define Allowable Subject Matter**

Claims 1-8 and 11 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Cho (US 6,307,530) in view of Suenaga (US 4,772,100), and claims 9 and 10 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Cho, Suenaga, and Asada et al. (US 5,963,287). Applicant traverses these rejections for at least the following reasons.

Initially, Applicant respectfully notes that since independent claims 1 and 15 recite similar subject matter, the above rejections may have equally been applied to independent claim 15, and dependent claims 17-20. Accordingly, Applicant respectfully submits that, contrary to the Examiner's allegations that "substantial additional searching and consideration would necessarily be required to confirm or refute patentability of the remaining species," claims 15 and 17-20 should have also been examined with respect to the presently applied prior art references. Thus, the Applicant's arguments presented below may also be equally applied to the features recited by claims 15 and 17-20.

Applicant respectfully asserts that combining the teachings of Suenaga with Cho changes the principle of operation of Cho, thereby rendering the device of Cho unsatisfactory for its

intended purpose. For example, as disclosed by Cho (col. 3, lines 50), the main PCB 11 and the inverter PCB 13 are intentionally both physically separated from the power PCB 12 “for the prevention of the heat generated by the power PCB 12 and are in the vicinity of the heat exhaust hole 12a, thereby preventing overheating after a long period of use.” Furthermore, Cho discloses (col. 3, lines 29-33) that “a power PCB 12, which is disposed apart from the main PCB 11, and which is separately positioned on the side of an inverter portion of the liquid crystal panel 1 so that the power PCB 12 is located near the switch.” Moreover, Cho discloses (col. 3, lines 9-11) that “the present invention provides a partitioned circuit section because the heat, if not eliminated effectively, may cause malfunction of components in the circuit section.” In addition, Cho is completely silent with respect to removal of any of the main, power, and/or inverter PCBs 11, 12, and 13. Accordingly, Applicant respectfully asserts that the device disclosed Cho must have the power PCB 12 disposed apart from the main PCB 11 and the inverter PCB 13, and that the circuit section must be partitioned.

Conversely, Suenaga teaches (col. 4, lines 36-38) a “printed circuit board assembly 3 comprises elongated printed circuit boards 3A, 3B, and 3C” disposed along a perimeter of a liquid crystal panel. Specifically, Suenaga teaches that two segment circuit boards 3A and 3B, which presumably include integrated circuits 17 and 16, respectively, are electrically connected to a common circuit board 3C via connection points 9A and 9B. Furthermore, Suenaga teaches that the common circuit board includes common terminals 5C that are connected to one end of a flexible tape connector 15. Accordingly, Applicant respectfully submits that Suenaga teaches electrically interconnecting segment circuit boards using a common circuit board, wherein the

segment and common circuit boards are elongated and disposed along perimeter portions of a liquid crystal panel.

Thus, Applicant respectfully asserts that combining the teachings of Suenaga with Cho would, at best, result in placing each of the PCBs 11, 12, and 13 along the perimeter of the liquid crystal panel 1 of Cho, which directly contradicts the teachings and requirements of Cho.

As MPEP 2143.01 instructs, “[I]f proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).” Furthermore, MPEP 2143.01 instructs, “[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).” Accordingly, modifying Cho with the teachings of Suenaga would result in positioning of the power PCB 12 away from the heat exhaust hole 12a and adjacent to the liquid crystal panel 1. This modification would cause overheating over a long period time. Therefore, the teachings of Suenaga would render the device of Cho inoperable and unsatisfactory for its intended purpose.

Furthermore, Applicant respectfully asserts that the Office Action has not established any proper motivation to modify Cho, and thus not established a *prima facie* case of obviousness. For example, the Office Action alleges that Suenaga somehow demonstrates that “ordinary workers in the field of liquid crystal display modules would have had the reason, suggestion, and motivation to remove the printed circuit boards from each other and from a frame for effective repair and replacement of defective printed circuit boards.” However, Suenaga is completely

silent with respect to all the features of independent claim 1. For example, both Cho and Suenaga, whether taken singly or combined, fail to teach or suggest a source printed circuit board mounted on a first frame and electrically connected with a liquid crystal panel, a control printed circuit board mounted on and electrically connected to the source printed circuit board to drive the liquid crystal panel, and the control printed circuit board being removable from the source printed circuit board and the first frame, as recited by independent claim 1, and hence dependent claims 2-14, and as similarly recited by independent claim 15, and hence dependent claims 17-20.

Applicant further asserts that the Office Action does not rely on Asada et al. to remedy the deficiencies of Cho and/or Suenaga. Moreover, Applicant respectfully asserts that Asada et al. cannot remedy the deficiencies of Cho and/or Suenaga. For example, Applicant respectfully asserts that Asada et al. is completely silent with respect to printed circuit boards removably mounted on each other. Furthermore, Applicant respectfully asserts that Asada et al. is completely silent with respect to a technician removing components during repair of the device disclosed by Asada et al.

For the above reasons, Applicant respectfully asserts that the rejections under 35 U.S.C. § 103(a) should be withdrawn because none of the applied prior art references, whether taken individually or in combination, teach or suggest the novel combination of features clearly recited in independent claim 1, and hence dependent claims 2-14, as similarly recited by independent claim 15, and hence dependent claims 17-20.

**CONCLUSION**

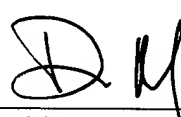
In view of the foregoing, Applicant respectfully requests reconsideration and the timely allowance of all pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicant's undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested, and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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